REMARKS

In connection with Applicants' Request for Continued Examination (RCE), Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the subject matter identified in caption, pursuant to and consistent with 37 C.F.R. §1.114, and in light of the remarks which follow.

Claims 6, 7 and 20-35 are pending in this application. Claims 1-5 were previously cancelled. Claims 8-19 were cancelled in this amendment.

Claim 6 has been amended to delete various elements and to recite the material comprises a cured epoxy comprising an epoxy component mixture and a curing component mixture, wherein a) the epoxy component mixture comprises an epoxy resin blended with an alkyl glycidyl ether, an epoxy resin blended with an acrylic monomer, and ceramic particles; and b) the curing component mixture comprises a polyamide curing agent, a polyether polyamine curing agent, and ceramic particles. Support for this is found in the specification at least on page 4, line 20 to page 5, line 3, page 6, line 7 - page 7, line 13, and page 15, line 6 to page 16, line 3.

Claims 7-9 have been amended to delete the word insulating and to recite the mixture comprises the recited mixture. Claims 7 and 8 have also been amended to correct a typographical error.

Claims 20-35 have been added. New claims 20-25 depend from claim 6. Claim 20 recites the epoxy component mixture comprises: (a) an epoxy resin; (b) an epoxy diacrylate resin; (c) a viscosity-lowering diluent; (d) an acrylated silicon flow control agent; (e) an aluminosilicate; (f) fiberglass; and (g) fumed silica. Support for

this claim is found in the specification on page 10, lines 14-16 and page 6, lines 7-16.

Claim 21 recites the curing component mixture comprises: (a) a polyamide curing agent for epoxy system; (b) a polyether polyamine curing agent; (c) an acrylated silicon flow control agent; (d) a zirconium oxide ceramic particulate; (e) an aluminosilicate ceramic; (f) fiberglass; and (g) fumed silica. Support for this claim is found in the specification on page 10, lines 16-17 and page 6, line 17 to page 7, line 13.

Claim 22 recites a 1.03 inch thick sample of the material has an insulation k value of about 0.08 Btu/hr/ft^2/° or greater, at 78° F. Support for this claim is found in the specification on page 12, lines 4-5.

Claim 23 recites the cured epoxy is free of visible degradation at compressive pressure of 5500 pounds. Support for this claim is found in the specification on page 11, lines 5-6.

Claim 24 recites that the epoxy component mixture and the curing component mixture are present in a ratio of about 1 to 1. Support for this claim is found in the specification on page 5, lines 1-3.

Claim 25 recites the material under deflection of 45% maintains its structural integrity. Support for this claim is found in the specification on page 11, lines 7-8.

Claim 26 recites a material comprising a first syntactic foam material, a second syntactic foam material, and a cured epoxy comprising an epoxy component mixture and a curing component mixture, and wherein a) the epoxy component mixture comprises an epoxy resin, an epoxy acrylate resin, and ceramic particles; and b) the curing component mixture comprises a polyamide curing agent, a

polyether polyamine curing agent, and ceramic particles, and wherein the cured epoxy is sandwiched between the first and second syntactic foam materials. Support for this claim is found in the specification on page 10, lines 10-19.

New claims 27-35 depend from new claim 26. Claim 27 recites that the epoxy component mixture and the curing component mixture are present in a ratio of 1 to 1. Support for this claim is found in the specification on page 5, lines 1-3.

Claim 28 recites the material under deflection of 45% maintains its structural integrity. Support for this claim is found in the specification on page 11, lines 7-8.

Claim 29 recites the ceramic particles are hollow aluminosilicate ceramic particles. Support for this claim is found in the specification on page 5, lines 7-8.

Claim 30 recites the ceramic particles have a silane surface treatment. Support for this claim is found in the specification on page 16, lines 12-13.

Claim 31 recites the silane surface treatment of the ceramic particles in the epoxy component mixture includes an epoxy chemical functionality; and the silane surface treatment of the ceramic particles in the curing component mixture includes an amine functionality. Support for this claim is found in the specification on page 16, line 22 to page 17, line 3.

Claim 32 recites the composition comprises zirconium oxide ceramic particles. Support for this claim is found in the specification on page 5, lines 8-9.

Claim 33 recites the epoxy component mixture comprises: (a) a mixture of epoxy resin and a diluent; (b) a blend of acrylic monomers reactive with a primary amine; (c) a viscosity lowering agent; (d) an acrylated silicon flow control agent; (e) an aluminosilicate ceramic; (f) fiberglass; and (g) fumed silica. Support for this claim is found in the specification on page 10, lines 11-16 and page 5, lines 7-16.

Claim 34 recites the epoxy component mixture comprises: a) an epoxy resin comprising a diglycidyl ether of bis-phenol-A mixed with a C_{12} - C_{13} aliphatic alcohol; b) an epoxy resin comprising a diglycidyl ether of a bis-phenol-A mixed with acrylic monomers; c) a silane-treated cenosphere; d) fiberglass; and e) hydrophobic fumed silica. Support for this claim is found in the specification on page 10, lines 14-16 and page 6, line 7 to page 7, line 13.

Claim 36 recites the curing component mixture comprises: (a) a polyamide curing agent; (b) a polyether polyamine curing agent; (c) an acrylated silicon flow control agent; (d) a zirconium oxide ceramic particulate; (e) an aluminosilicate ceramic particulate; (f) fiberglass; and (g) fumed silica. Support for this claim is found in the specification on page 10, lines 16-17 and page 6, line 7 to page 7, line 13.

No new matter has been introduced in making these amendments.

The Office Action indicates that Replacement Sheets for the drawings had not been received. Enclosed are replacement drawings with the border and title block removed from the drawings. Figure 1 has been amended to delete hand-written notes on the labels 16a, 16b and 22 and to delete the label "PAGE #2" on the left side of the figure. Marked up copies of the drawings have not been submitted because Applicant is not able to show on the drawings that the border and title block are deleted. If it is determined that marked-up drawings are necessary, the Examiner is requested to contact Applicant's representative.

Specification

The specification is objected to because the amendment to the specification allegedly exceeds the scope of enablement with respect to the properties attributed to Byk 361.

The first full paragraph on Page 7 of the specification has been amended to replace the previously amended paragraph. The difference in the paragraphs is the description of Byk 361. The amended paragraph recites that Byk 361 is an acrylic resin which contributes to the consistency of the final mixture. Support for this limitation is found in the specification at page 7, line 11.

35 U.S.C. §112, second paragraph

Claim 6 has been rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. The use of the term "flexible" has been objected to because it is alleged that one cannot determine what threshold of flexibility is distinguished from being rigid.

Claim 6 has been amended to delete that the material is flexible.

2. Characterizing ceramic particles as having "thermal insulating properties" has been objected to because it does not define the metes and bounds thereof.

Claim 6 has been amended to delete that the ceramic particles have thermal insulating properties.

Applicants respectfully request reconsideration and withdrawal of the 112, first paragraph, rejection.

35 U.S.C. § 103(a) Obviousness Rejection

1. Claim 6 stands rejected under 35 U.S.C. § 103(a) as unpatentable over Wolf (U.S. Patent 6,274,939), in combination with Scarlette (U.S. Patent 6,956,079), or Neuner (U.S. Patent 6,160,041).

Applicants submit that claim 6 is not obvious over Wolf, Scarlette or Neuner; and that claim 6, as amended, is allowable.

To establish a *prima facie* case of obviousness, three basic criteria must be met. (M.P.E.P. § 2143) First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Secondly, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Wolf teaches a composition comprising epoxy resin, an epoxy hardener (curing agent) and a ceramic material with magnetic properties.

Neuner teaches a composition comprising an epoxy resin, an aliphatic glycidyl ether epoxy diluent, a polyoxypropyleneamine curing agent, intumescent powder, hollow ceramic microspheres and an air release reagent. (col. 3, lines 22-34)

Scarlette teaches a composition comprising a film-forming resin and a sol gel processed grain composition. (col. 2, lines 8-12).

The Office Action admits that Wolf and Neuner do not recite the claimed acrylic resins.

The Office Action alleges that it would have been obvious to add the Byk 361 of Scarlette to the formulations of Wolf and Neuner in order to control the flow.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. There is no suggestion or motivation in Wolf, Neuner or Scarlette to modify Wolf or Nuener to obtain the composition of the present invention. Both Wolf and Neuner teach a composition comprising an epoxy resin and an epoxy curing agent. There is no suggestion or motivation in any of the references to use an epoxy component mixture comprising an epoxy resin blended with an alkyl glycidyl ether and an epoxy resin blended with an acrylic monomer. Nor is there a suggestion or motivation in any of the references to use a curing component mixture comprising a polyamide curing agent and a polyether polyamine curing agent. Therefore, there was no suggestion or motivation, either in the reference itself or in the knowledge then generally available to one of ordinary skill in the art, to modify the reference to arrive at the claimed invention.

To establish a *prima facie* case of obviousness, there must be a reasonable expectation of success. There would not have been a reasonable expectation of success in obtaining the claimed invention, which is a cured epoxy comprising an epoxy and acrylate polymers. One of ordinary skill in the art would not have had a reasonable expectation of success in obtaining a composition in which both a resin and an acrylate form from the mixture of the claimed epoxy component mixture and curing component mixture. One of ordinary skill in the art would have recognized that, given the complex mixture of an epoxy resin blended with an alkyl glycidyl ether, an epoxy resin blended with an acrylic monomer, a polyamide curing agent and a polyether polyamine curing agent, the nature of a cured material formed from

such a complex mixture would not have reasonably been expected. Therefore, there would not have been a reasonable expectation of success in modifying Wolf or Neuner to arrive at the claimed invention.

To establish a *prima facie* case of obviousness, the prior art reference must teach or suggest all the claim limitations. None of the references teach or suggest an epoxy component mixture comprising an epoxy resin blended with an alkyl glycidyl ether and an epoxy resin blended with an acrylic monomer. Nor do they teach or suggest using a curing component mixture comprising a polyamide curing agent and a polyether polyamine curing agent. Therefore the cited references would not have taught or suggested to one of ordinary skill in the art all the claim limitations.

Applicants respectfully submit that Claim 6 is not obvious over Wolf, Scarlette or Neuner. Applicants request withdrawal of the rejection of Claim 6 under 35 U.S.C. § 103(a).

2. Claim 6 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Bluem et al. (U.S. Patent No. 6,214,460).

Applicants respectfully submit that claim 6 is not obvious over Bluem, and that this claim is allowable.

Bluem relates to screen-printable adhesives and heat-curable adhesive films. (Col. 1, lines 11-12) Bluem teaches compositions comprising at least one alkyl acrylate monomer, a polyepoxide resin and a heat-activatable polyepoxide resin curing agent. (Col. 2, lines 25-40) The Office Action cites Example 24 as showing a composition that comprises a diglycidyl ether of bisphenol A polyepoxide resin,

phenoxyethyl acrylate, isobornyl acrylate, a polyepoxide curing agent, and epoxy diacrylate.

To establish a *prima facie* case of obviousness, there must be shown to be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to arrive at the claimed invention. There is no suggestion or motivation to modify Bluem to obtain the composition of the claimed invention. There is no suggestion or motivation in Bluem to use a curing component mixture comprising a polyamide curing agent and a polyether polyamine curing agent. Therefore there is no suggestion or motivation, either in the reference itself or in the knowledge generally available to one of ordinary skill in the art, to modify the reference to arrive at the claimed invention.

To establish a *prima facie* case of obviousness, there must be a reasonable expectation of success. One of ordinary skill in the art would not have had a reasonable expectation of success developing such materials by modifying compositions that are screen-printable adhesives or heat-curable adhesive films. There would not have been a reasonable expectation of success in modifying Bluem by using a curing component mixture comprising a polyamide curing agent, a polyether polyamine curing agent, and ceramic particles, as required by the claims.

One of ordinary skill in the art, upon reading Bluem, would not have had a reasonable expectation of success as to how the mixture of curing agents would interact with the resin. In addition, as indicated in the Office Action, Bluem teaches thermally conductive, electrically insulating material. (Col. 15, lines 18-23) One of ordinary skill in the art of developing insulating materials, upon reading Bluem, would

have realized that Bluem teaches away from the use of the various ceramics cited in Bluem because they must be thermally conductive. "A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out it the reference, or would be led in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F3d 551, 553, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994). One of ordinary skill in the art would know not to use thermally conductive material, and so would not have been motivated to use the ceramic materials recited in Bluem; but rather would have been motivated to *remove* the ceramic materials. Therefore there would not have been a reasonable expectation of success in modifying Bluem to arrive at the invention of the claims.

To establish a *prima facie* case of obviousness, the prior art reference must teach or suggest all the limitations of the claim(s). Bluem teaches a composition comprising a polyepoxide curing agent. (Col. 7, lines 22-36 and col. 24, line 51) Bluem does not teach a curing component mixture comprising a polyamide curing agent, a polyether polyamine curing agent, and ceramic particles, as required by Claim 6. Therefore Bluem does not teach or suggest all the limitations of the claim.

Applicants respectfully submit that Claim 6 is not obvious over Bluem, and therefore request the withdrawal of the rejection of Claim 6 under 35 U.S.C. § 103(a).

Conclusion

For at least the reasons stated above, the Examiner is respectfully requested to reconsider and withdraw the outstanding rejections and objections, and to allow the present application.

In the event that there are any questions concerning this amendment, or the application in general, the Examiner is respectfully urged to telephone the undersigned attorney so that prosecution of the application may be expedited.

The Director is hereby authorized to charge any appropriate fees under 37 C.F.R. §§ 1.16, 1.17 and 1.20(d) and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

Respectfully submitted,

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